



## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Circular vias and interconnect-line ends						
Application Number:	10/066094						
Confirmation Number:	6006						
First Named Applicant:	Steven Teig						
Attorney Docket Number:	SPLX.P0080						
Art Unit:	2825						
Examiner:	Leigh M. Garbowski						
Search string:	( 4700016 or 5784262 or 6247853 or 6320391 or 6342682 or 6365958 or 6483481 or 6512292 or 6615400 or 6680150 ).pn.						
<b>US Patent Documents</b>							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
1	1	4700016	1987-10-13	Hitchcock et al.			
	2	5784262	1998-07-21	Sherman			
	3	6247853	2001-06-19	Papadopoulou et al.	B1		
	4	6320391	2001-11-20	Bui	B1		
	5	6342682	2002-01-29	Mori et al.	B1		
	6	6365958	2002-04-02	Ibnabdeljalil et al.	B1		
	7	6483481	2002-11-19	Sievenpiper et al.	B1		
	8	6512292	2003-01-28	Ambrust et al.	B1		
	9	6615400	2003-09-02	Lukanc	B1		
	10	6680150	2004-01-20	Blatchford, Jr. et al.	B2		

Signature

Examiner Name	Date
	11/4



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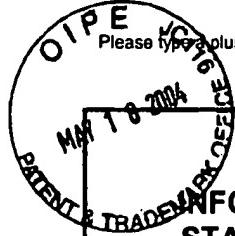
<p style="text-align: center;">Substitute for form 1449A/PTO</p> <p><b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b></p> <p>(use as many sheets as necessary)</p>				Application Number	10/066,094
				Filing Date	1/31/02
				First Named Inventor	Steven Teig et al.
				Group Art Unit	2826 2825
				Examiner Name	Mandala, Victor GARBOWSKI
Sheet	1	of	3	Attorney Docket Number	SPLX.P0080

RELATED U.S. PATENT APPLICATIONS						
Examiner* Initials	Cite No. <sup>1</sup>	U.S. Patent Application		Name of Patentee or Applicant of Cited Document	Date of Filing MM-DD-YYYY	Related Application Data
		Serial Number	Attorney Docket Number			
WT	1.	10/066,060	SPLX.P0072	Steven Teig	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	2.	10/066,160	SPLX.P0073	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	3.	10/066,095	SPLX.P0074	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	4.	10/066,047	SPLX.P0078	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	5.	10/061,641	SPLX.P0079	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	6.	10/076,121	SPLX.P0081	Steven Teig	02-12-2002	CIP of the present application.
	7.	10/062,995	SPLX.P0105	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	8.	10/066,102	SPLX.P0106	Steven Teig	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	9.	10/066,187	SPLX.P0133	Steven Teig et al.	01-31-2002	Application with the same specification and drawings as the present application, with the exception of summary and abstract.
	10.	10/233,202	CDN.P0008	Steven Teig	08-28-2002	Per the preliminary amendment dated 5/30/03, this application is a CIP of the present application.
	11.	10/229,196	CDN.P0009	Steven Teig	08-26-2002	Per the preliminary amendment dated 5/30/03, this application is a CIP of the present application.

Examiner Signature		Date Considered	1/14
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This collection of information is required by 37CFR 1.97 and 1.98. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 2 hours to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing the burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.



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Substitute for form 1449A/PTO <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> (use as many sheets as necessary)				Application Number	10/066,094
				Filing Date	1/31/02
				First Named Inventor	Steven Teig et al.
				Group Art Unit	2820 2825
				Examiner Name	Mandala, Victor GARBOWSKI
Sheet	2	of	3	Attorney Docket Number	SPLX.P0080

RELATED U.S. PATENT APPLICATIONS						
WJ	12.	10/288,870	CDN.P0010	Steven Teig	11-06-2002	Per the preliminary amendment dated 5/30/03, this application is a CIP of the present application.
WJ	13.	10/219,923	CDN.P0011	Steven Teig	08-14-2002	Per the preliminary amendment dated 5/30/03, this application is a CIP of the present application.

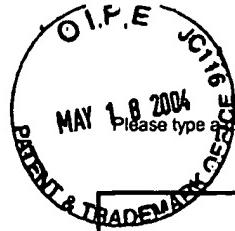
FOREIGN PATENT DOCUMENTS						
Examiner's Initials	Cite No. <sup>1</sup>	Foreign Patent Document		Date of Publication	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
		Office <sup>3</sup>	Number <sup>4</sup>	Kind Code <sup>5</sup> (if known) <sup>6</sup>	MM-DD-YYYY	T <sup>6</sup>
WJ	14.	JP	03-173471		07-26-1991	Tawada et al. with Japanese Patent Office's English translation of Abstract; and with English translation of the application.
	15.	JP	04-000677		01-06-1992	Fujiwara et al. with English translation of Abstract;
	16.	JP	05-102305		04-23-1993	Sato with Japanese Patent Office's English translation of Abstract; and with English translation of the application.
	17.	JP	05-243379		09-21-1993	Kubota with Japanese Patent Office's English translation of Abstract; and with English translation of the application.
	18.	JP	07-086407		03-31-1995	Miura with Japanese Patent Office's English translation of Abstract;

Examiner Signature	<i>[Signature]</i>	Date Considered	1/14
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Substitute for form 1449A/PTO  <b>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</b> <i>(use as many sheets as necessary)</i>				Application Number	10/066,094
				Filing Date	1/31/02
				First Named Inventor	Steven Teig et al.
				Group Art Unit	2828 2825
				Examiner Name	Mandala, Victor GARBOWSKI
Sheet	3	of	3	Attorney Docket Number	SPLX.P0080

FOREIGN PATENT DOCUMENTS						
.	.	.	.	.	.	and with English translation of the application.
W	19.	JP	09-162279	06-20-1997	Yoshida	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.
W	20.	JP	2000-082743	03-21-2000	Igarashi et al.	with Japanese Patent Office's English translation of Abstract; and with English translation of the application.

NON PATENT LITERATURE DOCUMENTS							
Examiner* Initials	Cite No. <sup>1</sup>	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.					T <sup>6</sup>
W	21.	Berger, B. et al., Nearly Optimal Algorithms and Bounds for Multilayer Channel Routing, Journal of the Association for Computing Machinery, pp. 500-542, March 1995.					
	22.	Chen, H., Routing L-Shaped Channels in Nonslicing-Structure Placement. 24 <sup>th</sup> ACM-IEEE Design Automation Conference, pp. 152-165, 1987.					
	23.	Cheng, K. et al., Manhattan or Non Manhattan? A Study of Alternative VLSI Routing Architectures, pp 47-52, 2000.					
	24.	Chiang, C. et al., Wirability of Knock-Knee Layouts with 45° Wires, IEEE Transactions on Circuits and Systems, Vol. 38, Issue 6, pp 613-624, June 1991.					
	25.	NN71091316, Use of Relatively Diagonal And Rectangular Wiring Planes n Multilayer Packages, September 1971, IBM Technical Disclosure Bulletin, Vol. No. 14, Issue No. 4, pp. 1316-1317.					
	26.	Overtone, G., EDA Underwriter 2 Finding Space in a Multi-Layer Board, Electronic Engineering, Morgan-Grampian LTD, March 1995, vol. 67, no. 819, pp 29-30.					

Examiner Signature		Date Considered	11/4
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## ELECTRONIC INFORMATION DISCLOSURE STATEMENT

Electronic Version v18

Stylesheet Version v18.0

Title of Invention	Circular vias and interconnect-line ends						
Application Number:	10/066094						
Confirmation Number:	6006						
First Named Applicant:	Steven Teig						
Attorney Docket Number:	SPLX.P0080						
Art Unit:	2826						
Examiner:	Victor A. Mandala						
Search string:	( 4615011 or 4673966 or 4700016 or 4782193 or 5360948 or 5578840 or 5618744 or 5633479 or 5650653 or 5657242 or 5742086 or 5757656 or 5777360 or 5784262 or 5811863 or 5822214 or 5889329 or 5914887 or 5973376 or 6035108 or 6067409 or 6128767 or 6166441 or 6209123 or 6226560 or 6262487 or 6301686 or 6320391 or 6324675 or 6342682 or 6365958 or 6385758 or 6407434 or 6412097 or 6436804 or 6483481 or 6512292 or 6546540 or 6586281 or 6615400 or 6292929 or 6645842 or 20010003843 or 20020024115 or 20020174413 or 20020182844 or 20030005399 or 20030025205 or 20030121017 ).pn.						
<b>US Patent Documents</b>							
Note: Applicant is not required to submit a paper copy of cited US Patent Documents							
init	Cite.No.	Patent No.	Date	Patentee	Kind	Class	Subclass
V	1	4615011	1986-09-30	Linsker			
	2	4673966	1987-06-16	Shimoyama			
	3	4700016	1987-10-13	Hitchcock et al.			
	4	4782193	1988-11-01	Linsker			
	5	5360948	1994-11-01	Thornberg			
	6	5578840	1996-11-26	Scepanovic et al.			
	7	5618744	1997-04-08	Suzuki et al.			
	8	5633479	1997-05-27	Hirano			

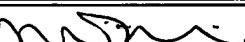
10	9	5650653	1997-07-22	Rostoker et al.
	10	5657242	1997-08-12	Sekiyama et al.
	11	5742086	1998-04-21	Rostoker et al.
	12	5757656	1998-05-26	Herhsberger et al.
	13	5777360	1998-07-07	Rostoker et al.
	14	5784262	1998-07-21	Sherman
	15	5811863	1998-09-22	Rostoker et al.
	16	5822214	1998-10-13	Rostoker et al.
	17	5889329	1999-03-30	Rostoker et al.
	18	5914887	1999-06-22	Scepanovic et al.
	19	5973376	1999-10-26	Rostoker et al.
	20	6035108	2000-03-07	Kikuchi
	21	6067409	2000-03-23	Scepanovic et al.
	22	6128767	2000-10-03	Chapman
	23	6166441	2000-12-26	Geryk
	24	6209123	2001-03-27	Maziasz et al.
	25	6226560	2001-05-01	Hama et al.
	26	6262487	2001-07-17	Igarashi et al.
	27	6301686	2001-10-09	Kikuchi et al.
	28	6320391	2001-11-20	Bui
	29	6324675	2001-11-27	Dutta et al.
	30	6342682	2001-01-29	Mori et al.
	31	6365958	2002-02-28	Ibnadeljalil et al.
	32	6385758	2002-05-07	Kikuchi et al.
	33	6407434	2002-06-18	Rostoker et al.
	34	6412097	2002-06-25	Kikuchi et al.
	35	6436804	2002-08-20	Igarashi et al.
	36	6483481	2002-11-19	Sievenpiper et al.
	37	6512292	2003-01-28	Armbrust et al.
	38	6546540	2003-04-08	Igarashi et al.
	39	6586281	2003-07-01	Gabara et al.
	40	6615400	2003-09-02	Lucanc
	41	6292929	2001-09-18	Scepanovic et al.
	42	6645842	2003-11-11	Igarashi et al.

## US Published Applications

Note: Applicant is not required to submit a paper copy of cited US Published Applications

init	Cite.No.	Pub. No.	Date	Applicant	Kind	Class	Subclass
1	20010003843	2001-06-14	Scepanovic et al.	A1			
2	20020024115	2002-02-28	Ibnadeljalil et al.	A1			
3	20020174413	2002-11-21	Tanaka	A1			
4	20020182844	2002-12-05	Igarashi et al.	A1			
5	20030005399	2003-01-02	Igarashi et al.	A1			
6	20030025205	2003-02-06	Shively	A1			
7	20030121017	2003-06-26	Andreev et al.	A1			

Signature

Examiner Name	Date
	11/4